

# ***Headquarters CONR-AFNORTH (1 AF)***

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## ***Military Airborne Fire Fighting System (MAFFS) Public Brief***



**601st Air Operations  
Center  
Air Mobility Division  
25 Oct 2007**

**This Briefing is:  
UNCLASSIFIED**

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# Purpose



- This is a information briefing on the Military Airborne Fire Fighting System (MAFFS) and Wildland Firefighting (WFF).





# Overview



- **Background**
- **National Interagency Fire Center (NIFC)**
- **Legislation**
- **MAFFS**



MAFFS 4 drops on Simi Valley fire, CA



# ***Background***



- **Ten Year average**
  - Over 52,000 fires per year
  - 1.8 million acres per year
- **US Forest Service (USFS) projection**
  - Typical seasons until 2025







# ***National Interagency Fire Center (NIFC) Boise, ID***



*National Interagency Fire Center*



***<http://www.nifc.gov>***



# ***National Interagency Fire Center (NIFC)***



- **NIFC is the lead agency to coordinate WFF activities**
  - **Coordinates between 9 different federal and state agencies**
- **Co-located at the NIFC are the:**
  - **National Interagency Coordination Center (NICC).**
    - **When active, operates 24/7.**
    - **Provides logistical support and intelligence for wildland fires, floods, hurricanes, and earthquakes**
  - **National Incident Radio Support Cache (NIRSC)**
    - **Contains the nations largest civilian hand held radio cache**
  - **National Fire Equipment Support Cache (NFESC)**
  - **Bureau of Land Management (BLM) Boise Smokejumpers**
- **Each year NIFC hosts a pre-season WFF conference**



# Legislation

## Defense Support of Civil Authorities (DSCA)



**DoDD 3025.1:** *"The Department of Defense will support civil authorities ... in both peacetime disasters and national security emergencies."*



**Request for  
Military Support**

Disaster Declared  
by the President

**Stafford Act**

No Disaster  
Declaration

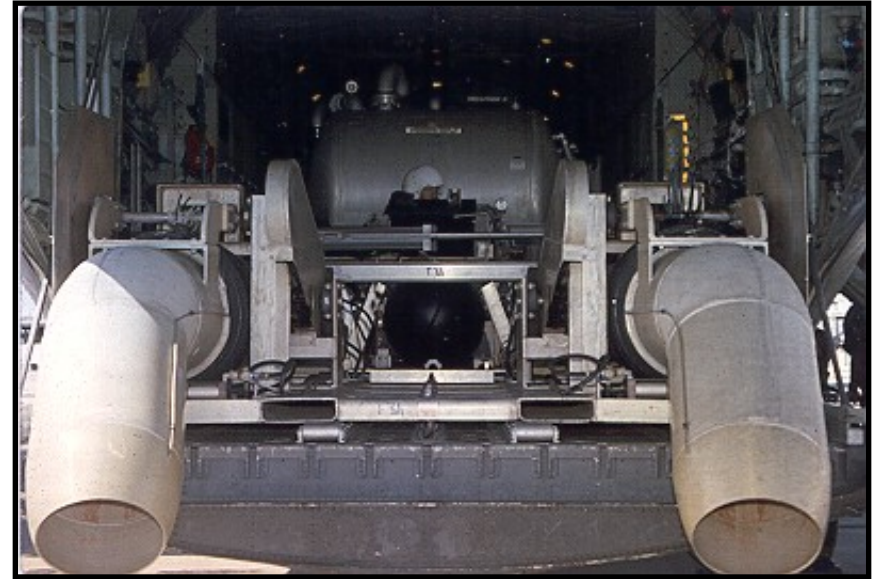
**Economy Act**

- All available civilian assets must be committed
- DoD must not compete with commercial entities
- Use of MAFFS-equipped C-130s must be





# Military Airborne Fire Fighting System (MAFFS)







# MAFFS Units



- **Currently 8 MAFFS kits reside in ANG and AFRES**



- **145 Airlift Wing (ANG) Charlotte, NC**
  - MAFFS 7 & 8



- **146 Airlift Wing (ANG) Channel Island, CA**
  - MAFFS 4 & 6



- **153 Airlift Wing (ANG) Cheyenne, WY**
  - MAFFS 1 & 3



- **302 Airlift Wing (AFRES) Colorado Springs, CO**
  - MAFFS 2 & 5

- **MAFFS kits are:**

- Owned by the US Forest Service (USFS)
- Maintained by USFS contract
- Employed in USAF C-130s



# *Frequently Asked Questions*

- **Drop Airspeed:**
  - 120 - 125 KIAS
- **Altitude:**
  - 150 feet AGL minimum with 170 feet AGL optimum
- **Accuracy:**
  - Very accurate; C-130s are typically guided by a USFS lead airplane
- **Times:**
  - Day VFR
  - May drop up to 30 minutes after sunset, if within 12-hr crew day
- **Swath width:**
  - 60 ft wide by  $\frac{1}{4}$  mile long (one shot)
  - All MAFFS kits are also capable of (3 - 4 smaller incremental shots)
  - MAFFS 4 and 6 are in refurbishment
- **Amount of retardant/water:**
  - 3000 gallons (30,000 lbs) discharged in about five seconds (one shot)
- **Ground coverage:**
  - Variable up to 40 gallons per square foot
- **Time to reload MAFFS kit:**
  - 8 minutes
- **Typical turn time from landing to takeoff:**
  - 30 minutes but can be as little as 15 minutes



# ***Fire Traffic Area***

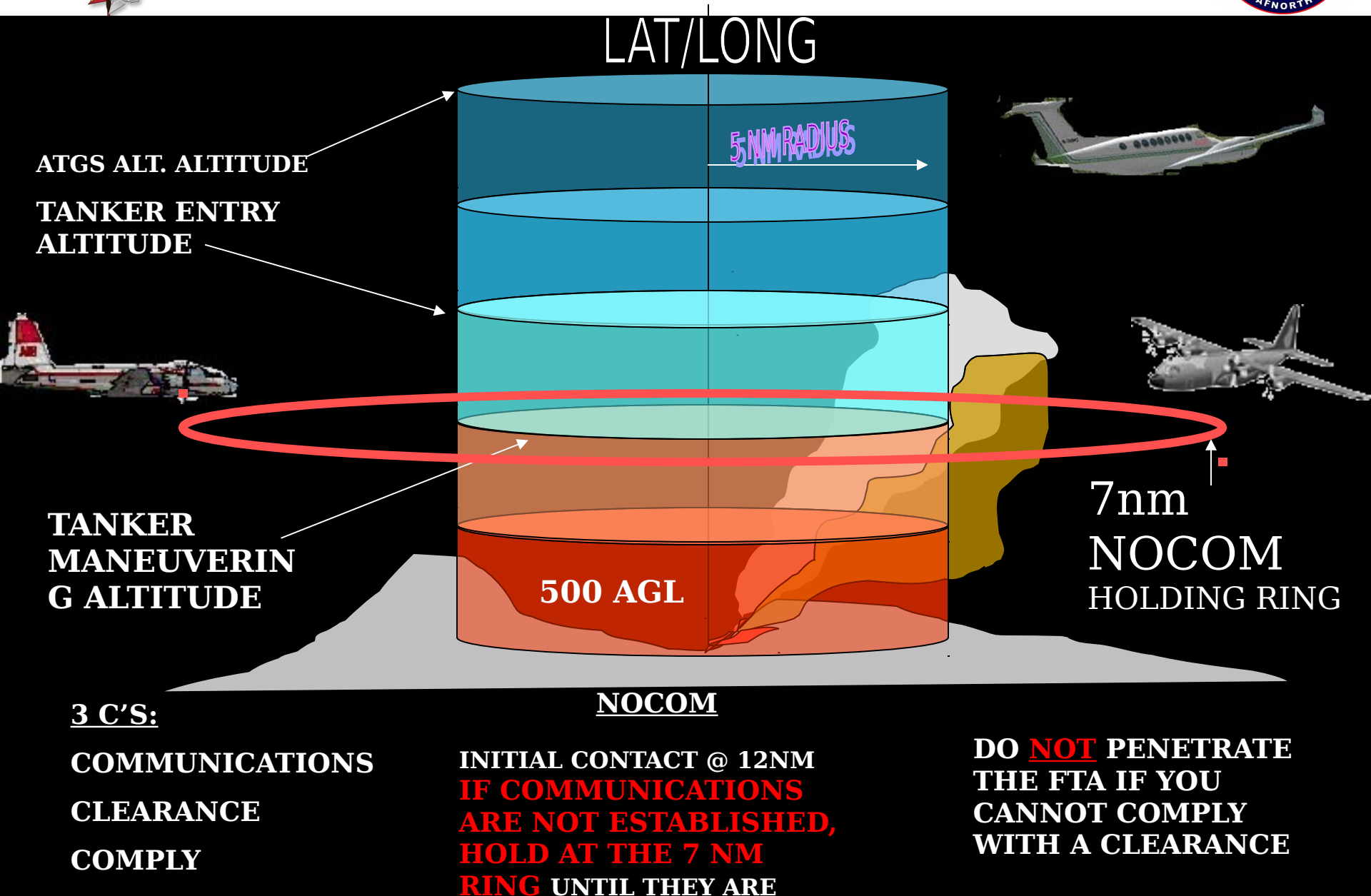


- **Created after midair collision in California of civilian air tankers**
- **Adopted by the US Forest Service**
- **Made into policy by the Department of the Interior, Bureau of Land Management**





# Fire Traffic Area (FTA)







# MAFFS

## *Annual Certification Training*



- Highly experienced airdrop-qualified aircrews conduct joint annual training with the US Forest Service
- Participating aircrews are certified to execute MAFFS missions for up to one year following completion of training



# ***Air Tactical Group Supervisor (ATGS)***



- Responsible for airspace and air traffic management for the incident
- Determines and recommends aircraft needs over the incident
- Recommends temporary flight restrictions (TFRs) when appropriate
- Develops and/or recommends and implements a plan for air-to-air and air-to-ground communications
- Makes tactical and logistical recommendations



# Air Tanker Coordinator (ATCO) “Lead Plane”



- Establishes communications with ATGS
  - Obtains operational briefing on overall strategy and tactics of incident control objectives
  - Coordinates for safe separation of rotor and fixed winged aircraft
- Surveys incident for hazards to assure the safe operation of all aircraft
- Establishes communications with MAFFS pilots
  - Ensures compliance with the communication plan and overall strategy and tactics
  - Assigns specific tasks based on action plan and MAFFS aircraft limitations
  - Gives direct supervision and leads MAFFS on specific runs for safety and efficiency of drops and exit
- Fulfills responsibilities of ATGS if requested



# MAFFS Pilot



- Delivers retardant at the direction of the ATCO
- Communicates with the ATCO on MAFFS capabilities and limitations
- Confirms with the ATCO that the tactics and strategy are appropriate and safe
- MAFFS pilot in conference with the co-pilot has the final authority on the mission





# MAFFS Pit



Collapsible water containers “pumpkins” are used store water. The water may be mixed with retardant in a mixing vat before being pumped into the MAFFS.



# Preparing to Load/Charge the MAFFS



- Retardant/water is pumped into the MAFFS using external compressors
- Similar to auto racing, aircrews often compete for the fastest pit turn
- From wheels down to wheels up can be as little as 15 minutes.



# *Join up with Lead Plane*







# MAFFS Airdrop



MAFFS 2 performing a retardant drop



MAFFS 4 dropping on Simi Valley fire



MAFFS 1 performing a retardant drop





# ***Post Flight Cleanup***



Retardant is corrosive to aircraft and must be cleaned up



# ***Summary***



- **National Interagency Fire Center (NIFC)**
  - **Lead agency for WFF**
- **Legislation**
  - **Stafford Act - Presidential Disaster Declaration**
  - **Economy Act - DoD support must be approved by SECDEF**
- **MAFFS**
  - **Four airlift wings with two MAFFS kits each**
  - **Annual Certification Training (certifies for one year)**
  - **Operations**
    - **Fire Traffic Area**
    - **15 minute pit turns**
    - **Post flight cleanup**



# Questions?



Simi Valley Fire, CA

